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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/363,868

07/29/1999

MICHIAKI SAKAMOTO

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03/11/2005

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EXAMINER

NGUYEN, DUNG T

ART UNIT

PAPER NUMBER

2871

DATE MAILED: 03/11/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/363,868

Applicant(s)

SAKAMOTO, MICHIAKI

Examiner

Dung Nguyen

Art Unit

2871

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 03 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 December 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10, 19-22 and 40-47 is/are pending in the application.
- 4a) Of the above claim(s) 5 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4, 6-10, 19-22 and 40-47 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Applicants' response dated 12/10/2004 has been received and entered. Claims 1-10, 19-22 and 40-47 are remain pending in the application.

Claim Rejections - 35 USC § 103

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
2. Claims 1-4, 6-9 and 40-47 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Shimada et al., US Patent No. 5,852,485, in view of Kondo et al., US Patent No. 6,198,520, as stated in the previous office action.

Regarding the above claims, Shimada et al. disclose an in-plane switching (IPS) liquid crystal display (LCD) device having:

- a pair of substrate (21, 212);
- a liquid crystal layer (217) formed therebetween;
- a thin film transistor (TFT);
- a gate insulation film (23);
- a color filter (218);
- an overcoat layer (29) formed over the color filter (218);

a common electrode (213) and a pixel electrode disposed between the color filter and the liquid crystal layer, wherein the common electrode form over the TFT are and also serve as a black matrix.

Art Unit: 2871

Shimada et al. do not disclose a protection film over the gate insulation film and an inter-layer insulating film forming between the pixel electrode, the common electrode (e.g., inter-layer film formed on the common electrode, and the pixel electrode is formed on the inter-layer film). Kondo et al. do disclose an IPS LCD device in which a color filter (5) can be formed over a protection film (insulating layer 24) as well as a pixel electrode (3) and a common electrode (2) can be separated by an insulating (4)(see figure 8). Therefore, it would have been obvious to one skilled in the art at the time of the invention was made to modify the Shimada et al. device having a color filter over a protection film as well as a pixel electrode formed over a common electrode with an insulating film therebetween as shown by Kondo et al. in order to improve a display characteristic and to avoid cross-talk between a pixel electrode and a common electrode. Furthermore, Kondo et al. also disclose the IPS LCD having a light shielding (black matrix 14) formed above a TFT (21) in order to protect such TFT underneath from light.

3. Claim 10 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Shimada et al., US Patent No. 5,852,485, in view of Kondo et al., US Patent No. 6,198,520, further in view of Kim et al., US Patent No. 6,469,764, as stated in the previous office action.

Regarding claim 10, the modification to Shimada et al. disclose the claimed invention as described above except for liquid crystal is orientated substantially vertically to the substrate. Kim et al. do disclose a homeotropic alignment can be formed in an IPS LCD device (see abstract). Therefore, it would have been obvious to one skilled in the art to employ a homeotropic alignment in the Shimada et al. device in order to improve a picture quality in an LCD device (col. 3, ln. 44).

Art Unit: 2871

4. Claims 19-21 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Shimada et al., US Patent No. 5,852,485 , in view of Kondo et al., US Patent No. 6,198,520, further in view of Kim et al., US Patent No. 6,469,764, Xu et al., US Patent No. 6,023,317 and Ishikawa et al., US Patent No. 5,677,747, as stated in the previous office action.

Regarding the above claims, the modification to the Shimada et al. disclose the claimed invention as described above except for a compensation film disposed between the pair of substrate and polarizing plate. Xu et al. do disclose in figures 1-3 that an optical compensation film (e.g, positive or negative) can be disposed between a substrate and a polarizing film. In addition, Ishikawa et al. disclose a pretilt angle formed by rubbing in which liquid crystal molecules will be felled when applying a voltage (figs. 3-4). Therefore, it would have been obvious to one skilled in the art to employ the optical compensation film in the Shimada et al. device in order to improve viewing characteristics (see abstract).

5. Claim 22 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Shimada et al., US Patent No. 5,852,485 , in view of Kondo et al., US Patent No. 6,198,520, further in view of Kim et al., US Patent No. 6,469,764 and Murai et al., US Patent No. 6,160,604, as stated in the previous office action.

The modification to Shimada et al. discloses the claimed invention as described above except for an organic based material for the liquid crystal layer. Murai et al. do disclose a liquid crystal material can be added an organic material and injected to the gap between two substrates (col. 7, ln. 26) for forming a liquid crystal layer. Therefore, it would have been obvious to one skilled in the art to add monomer or olygomers into a liquid crystal material as shown by Murai et al. in order to stabilize the rising directions of the liquid crystal molecules (col. 7, lines 27-32).

Response to Arguments

6. Applicant's arguments filed 12/10/2004 have been fully considered but they are not persuasive as follow:

Regarding claim 1, Applicants contend there is no motivation to duplicate the single insulation film (insulating layer 4?) present in both structures and performing similar functions in each. Furthermore, it is improper to read a single structure in the reference on two discrete structures; in addition, the interlayer separation film (4) is not positioned above the color filter layer (5) as claimed (response, page 3). The Examiner respectfully disagree with the Applicants' view-point; in particular, the modify to the Shimada et al. is to form a color filter (5) over the protective film (insulating layer 24) as well as to separate the pixel electrode (3) and the common electrode (2) by the insulating layer(4) as shown by Kondo et al. figure 8. Therefore, there is no duplicate a single layer present in and/or to read a single structure in both structures as asserted by Applicants. In other words, the combination of Shimada et al. and Kondo et al. would employ additional insulating layers between the Shimada et al color filter and gate insulating layer as well as between two electrodes; as such, the modification device and the Applicants' device would be the same as well.

Regarding claims 2-4, 6-10, 19-21 and 22, those claims, either directly or indirectly, depend from claim 1; therefore, such modification to Shimada et al. would have been obvious as stated above.

Accordingly, the rejection of the above claims stand.

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Kadota et al. (US 5,943,107) disclose an LCD device in which an active substrate comprising a gate electrode (3c), a gate insulating layer (14), a protecting layer (4c) formed over the gate insulating layer and the thin film transistors (TFT), a color filter (9c), an interlayer separating film (a planarization film 10) and an electrode (e.g, pixel electrode 1c).

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

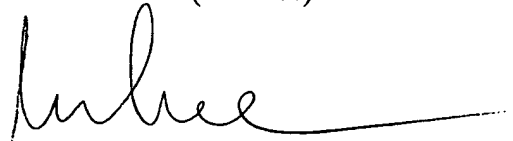
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dung Nguyen whose telephone number is 571-272-2297. The examiner can normally be reached on Tuesday-Friday.

Art Unit: 2871

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert H. Kim can be reached on 571-272-2293. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

DN
03/07/2005



Dung Nguyen
Primary Examiner
Art Unit 2871